

**Work Order ID- 67045**

Friday, March 04, 2011 10:25:33 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 3/4/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/23/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 11-03-11

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D2580

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile &amp; type labels per PPP D205-634-041 CHG003

S W 03/28

CK Pol BG 11/03/28

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

1 D BE 11/01/21

B67045

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
Skidtubes	Memo	0.00				1		3	11/03/20
Skidtubes	1- Deburr ends and remove bending marks								
	2- Prepare tube for swaging as per QSI 002								
130									
QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo	0.00							

11-3-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

0.00



Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R□□□ Aluminum Rod

M16577

BE 11/03/22

2-Grind welds on step as per Dwg D2580

BE 11/03/22

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

BE 11/03/22

4-Drill holes for wearplates using DT 8217 &amp; DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

3

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

BB 11/03/22

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

150



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

J u 103/23

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Sulog/23

170



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

1 BL 11-3-23

180



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

START TIME:  
OVEN TEMPERATURE:  
FINISH TIME:3:30  
320°  
4:00

1 BL 11-3-23

W/O:		WORK ORDER CHANGES					
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Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 JH 11/03/25

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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200

0.00



HandFinish

**Memo**

0.00

Hand Finishing

1-Install inserts &amp; wearplates &amp; Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

✓ A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11116040Sikaflex expire date: 1/09

✓ 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

✓ 3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11116040Sikaflex expire date: 11/09✓ 5-Wing Walk as per Dwg D2580 and QSI 005 4.4  
Batch: 111164021 0 2011/03/25

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

220



Packaging

Packaging

Packaging

0.00

0.00

Memo

Identify and pack for shipping as per PPPD205-634-041

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

230



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

0.00

Memo

(X)

C4/3/28

CK 11/03/28

MF  
11-03-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Friday, March 04, 2011 10:25:40 AM

Page 1

Work Order ID: 67045

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube




Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
KJ IPP Rev P 10.02.19  
per PAR09-043 EC verified by:DD  
IPP Rev. O 06.02.28 Added paperwork EC  
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1  Spacer		Manufactured	No			140	Each	240.0000	20	20		BE 11/03/22 1867308-20	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				240					
					65529			26					
					66121			214					
D2580-1  205 Skidtube bent detail		Manufactured	No			110	Each	11.0000	1	1		BE 11/03/21 867074-1	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				11					
					59856			1					
					65509			5					
					65510			4					
					65511			1					
D2576-3  Step (maching detail)		Manufactured	No			140	Each	40.0000	1	1		BE 11/03/22	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				40					
					52215			40					

W/O:		WORK ORDER CHANGES					
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Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D2855 Manufactured No

200 Each

88.0000

1 1



Cap

Location

Loc Qty

Loc Code

FP6

1

56613

1

fp7

15

65519

15

ST024

72

50513

1

50770

28

51539

2

53791

6

65569

35

AN3-5A Purchased No

200 Each

705.0000

2 2



Bolt

Location

Loc Qty

Loc Code

ST350

705

115016

39

115371

500

116632

166

AN960JD10L NAS1149D0332J Purchased No

200 Each

4.0000

2 2



Washer

Location

Loc Qty

Loc Code

ST335

4

11912

4

M117010

x2

W/O:		WORK ORDER CHANGES					
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Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

1,604.000

50

50



Insert



ML 11/03/25

## Location

## Loc Qty

## Loc Code

FP

21

115079

21

ST282

1583

111529

32

113238

17

115502

500

115581

34

116800

1000

x50

AN3C4A

Purchased

No

200

Each

2,476.000

50

50



BOLT



ML 11/03/25

## Location

## Loc Qty

## Loc Code

ST350

2476

115300

25

116075

337

116704

414

116924

1200

x50

117010

500

AN960C10L

NAS1149C0332

Purchased

No

200

Each

61.0000

50

50



washer



ML 11/03/25

## Location

## Loc Qty

## Loc Code

ST245

61

107534

59

108246

2

11116304

x50

Friday, March 04, 2011 10:25:41 AM

Shop Packet Print

Page 3

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Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-13      Manufactured      No      200      Each      61.0000      1      1  
Gasket  
4/103/25

Location	Loc Qty	Loc Code
FP011	36	
66550	36	X1
FP014	25	
64070	8	
66137	17	

D3566-5      Manufactured      No      200      Each      40.0000      1      1  
Gasket  
4/103/25

Location	Loc Qty	Loc Code
FP015	40	
63574	1	
65528	13	
66146	6	
66552	20	X1

D3566-1      Manufactured      No      200      Each      62.0000      2      2  
Gasket  
4/103/25

Location	Loc Qty	Loc Code
FP	20	
66548	20	
FP011	19	
65525	19	1367496
FP015	23	
57715	1	
66040	20	
66129	2	

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Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-11 Manufactured No 200 Each 19.0000 1 1  
  
 Wearshoe

Location

Loc Qty

Loc Code

FP019

19

1366154

65159


5

66554

14

HL 11/03/25

V1

D3564-13 Manufactured No 200 Each 48.0000 1 1  
  
 Wearshoe

Location

Loc Qty

Loc Code

FP16

25

65522

7

66549

18

FP17

23

59660


1

66136

22

HL 11/03/25

V2

D3564-9 Manufactured No 200 Each 20.0000 1 1  
  
 Wearshoe

Location

Loc Qty

Loc Code

FP

1

55334

1

FP019

18

66153

18

FP19

1

62238

1

HL 11/03/25

V1

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Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

200

Each

44.0000

1

1



Wearshoe



u 11/03/25

Location

Loc Qty

Loc Code

FG

1

34806

1

FP19

24

57525

1

58709

1

66551

22

x 1

FP-19

19

63575

1

65523

3

66148

15

D2594-3

Manufactured No

200

Each

967.0000

16

16



O-Ring, 205 Skidtube



u 11/03/25

Location

Loc Qty

Loc Code

FP

543

55546

19

58191

12

59358

12

65518

500

fpa

424

x 16

61762

424

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, March 04, 2011 10:25:42 AM

Page 7

Work Order ID: 67045



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured No

200

Each

696.0000

16

16



Plug, 205 Skidtube



u 1103(25)

Location

Loc Qty

Loc Code

FP	483	
42807	112	
55002	71	
<u>66122</u>	300	
FP14	213	
58434	15	
65512	133	
65980	65	

x16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**

DESIGN #	DRAWN BY RH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

**RELEASED**  
07.06.28 #**DEO ATTACHED**

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 47045  
RH/11-03-4

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

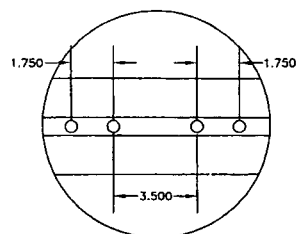
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

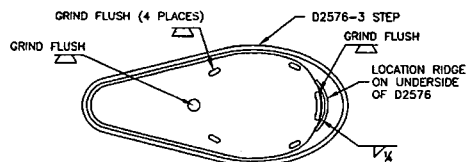
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL A  
SCALE 5:24



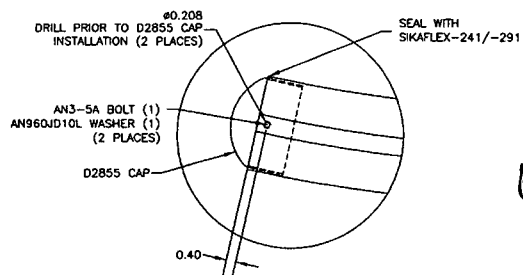
DETAIL B  
SCALE 5:24



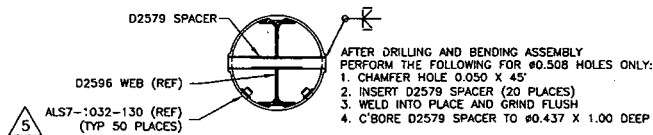
RELEASED  
07.06.28

DEO ATTACHED

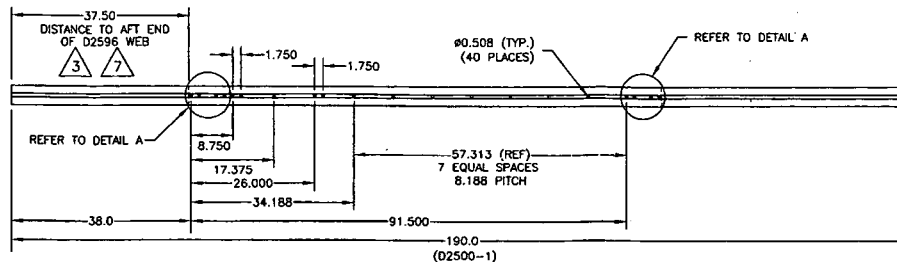
DETAIL C  
SCALE 5:24



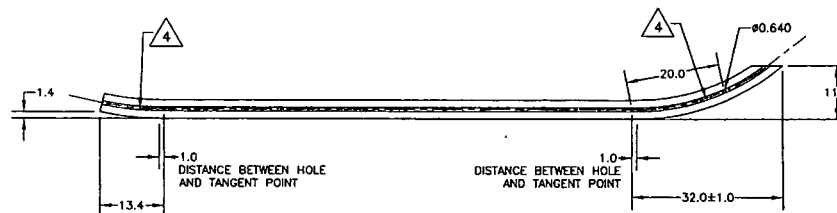
SECTION D-D  
SCALE 5:24



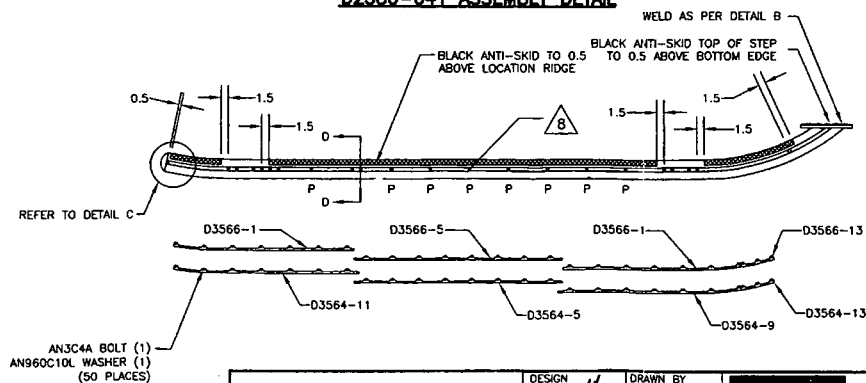
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DRAWN BY

**DART**

DART AEROSPACE LTD.  
MARKHAM, ONTARIO, CANADA

CHECKED

APPROVED

DRAWING NO.

REV. D

DATE

D2580

SHEET 2 OF 3

07.02.27

TITLE

SCALE

205 SKIDTUBE ASSEMBLY

1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



RELEASED  
07-06-28

Diagram illustrating the grinding locations on a propeller cross-section:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576

**DETAIL G**  
SCALE 5:24

Technical drawing of a circular component, likely a cap or washer, showing dimensions and assembly instructions. The drawing includes the following callouts and dimensions:

- #0.208**: Dimension for the central hole.
- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Instruction for drilling two locations.
- SEAL WITH SIKAFLEX-241/-291**: Instruction for sealing the component.
- AN3-5A BOLT (1)**: Callout for the bolt used in the assembly.
- AN960J010L WASHER (1)**: Callout for the washer used in the assembly.
- (2 PLACES)**: Indication of two locations for the bolt and washer.
- D2855 CAP**: Callout for the cap being installed.
- SEE NOTE ii)**: Reference to a note in the document.
- 0.40**: Dimension for the outer diameter of the component.

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)  
(TYP 50 PLACES)

AFTER PERFO

1. CHA
2. WEI
3. INS
4. C'B

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

37.50  
DISTANCE TO AFT END  
OF D2596 WEB  
3 7  
1.750 1.750  
#0.508 (TYP.)  
(40 PLACES)  
REFER TO DETAIL E  
REFER TO DETAIL A  
8.750  
17.375  
26.000  
34.188  
57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH  
38.0  
91.500  
190.0  
(D2500-1)

(MAKE FROM D2580-1 DRILLING DETAIL)

Technical drawing of a propeller shaft with dimensions and callouts:

- Overall length: 51.340
- Distance from left end to first hole: 5.985
- Distance between first and second hole: 5.338 (REF)
- Distance from second hole to third hole: 39.580
- Distance from third hole to fourth hole: 5.915
- Distance from fourth hole to fifth hole: 20.0
- Distance from fifth hole to right end: 11.0
- Distance between hole and tangent point (left): 13.4
- Distance between hole and tangent point (right): 32.0 ± 1.0
- Hole diameters:  $\phi 0.508$  (8 PLACES),  $\phi 0.640$
- Callout 4 points to the left end, the first hole, and the right end.

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## DESIGN

CHECKED

DATE	
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07.02.27

DRAWN BY

APPROVED.

\_\_\_\_\_

**DART**

DRAWING NO.	
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TITLE
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205 SKIDTUBE ASSEMBLY

**DART AEROSPACE LTD.**  
HAWKESBURY, ONTARIO, CANADA

REV. 0

SCALE

1-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>RE</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

**PURPOSE:**

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

**CHANGE:**

PARTS LIST IS AMENDED AS FOLLOWS:

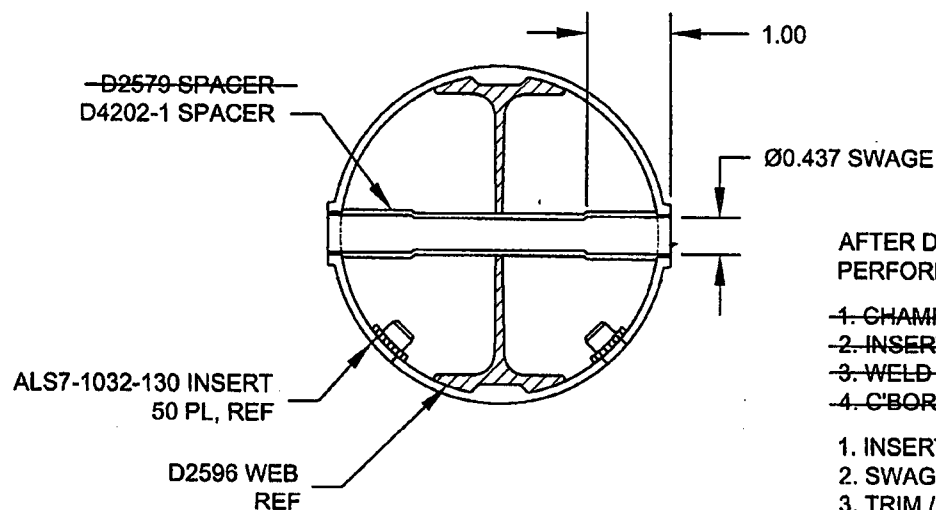
**WAS**

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

**IS**

20	24	D4202-1	SPACER
----	----	---------	--------

SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



**SECTION D-D**  
NOT TO SCALE

**SECTION H-H**  
NOT TO SCALE

**RELEASED**  
2010-11-18  
*MP*

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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